Microwave Limb Sounding of Earth from Space: Results from UARS and plans for EOS

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Microwave limb sounding at millimeter and submillimeter wavelengths is a powerful tool for observing Earth from space. It provides critical information for assessing global ozone depletion and climate change, its measurements arc not degraded by the presence of stratospheric aerosols or clouds, and several important results have already been obtained from the MLS experiment on NASA's Upper Atmosphere Research Satellite (U ARS). The UARS results include daily 3-dimensional maps of ozone as well as lower stratospheric CIO (the predominant form of chlorine which destroys stratospheric ozone) and upper tropospheric water vapor (an important contributor to radiational forcing of climate change), Illustrations of these and other results from UARS will be given. An enhanced MLS, to measure several parameters important for climate change and ozone depletion, is planned for the Earth Observing Systcm (EOS). The EOS MLS experiment and its capabilities will also bc described.

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